What is claimed is:

1. Apparatus for use in spinal fusion surgery comprising a hollow tubular member having at least a first extended portion for insertion in the disc space between two adjacent vertebrae, said first extended portion providing distraction and alignment of said two adjacent vertebrae.

2. The apparatus of claim 1 in which said first extended portion is substantially in line with one of the side surfaces of said hollow tubular member.

3. The apparatus of claim 1 in which said hollow tubular member comprises a second extended portion.

4. The apparatus of claim 3 in which said first and second extended portions are diametrically opposed to each other.

5. The apparatus of claim 1 in which said first extended portion has a height that is substantially equal to the normal height of the disc space between two adjacent vertebrae.

6. The apparatus of claim 1 in which said first extended portion has a height that increases in the direction away from said hollow tubular member.

7. The apparatus of claim 6 in which said first extended portion comprises a tapered leading edge.

8. The apparatus of claim 1 in which said extended portion has a height that decreases in the direction away from the hollow tubular member.

9. The apparatus of claim 1 in which said hollow tubular member comprises a distal end that is contoured to the curvature of said two adjacent vertebrae to permit an intimate fit between said

hollow tubular member and said two adjacent vertebrae.

10. The apparatus of claim 1 further including bone engaging means for engaging the bone of said two adjacent vertebrae.

11. The apparatus of claim 10 in which said bone engaging means comprises a plurality of teeth for insertion into said adjacent vertebrae.

12. The apparatus of claim 10 in which said bone engaging means comprises at least one prong for insertion into said adjacent vertebrae.

13. The apparatus of claim 1 further including penetration preventing means for preventing over penetration of said pair of extended portions.

14. The apparatus of claim 1 including a removable hollow inner tubular sleeve.

15. The apparatus of claim 14 in which said inner sleeve has a collar at one end larger than the inside diameter of said hollow tubular member.

16. The apparatus of claim 1 in which said hollow tubular member has an increased outer diameter portion at its upper end.

17. The apparatus of claim 16 including a cap, said cap having an opening in one end having an inside diameter larger than the outside diameter of said increased diameter portion of said member.

18. A spinal distractor, comprising a disc penetrating portion for insertion in the disc space between adjacent vertebrae, said disc penetrating portion having an uneven diameter.

19. The spinal distractor of claim 18 including a barrel member extending from said disc penetrating portion.

20. The spinal distractor of claim 19 including a shoulder at the juncture of said disc penetrating portion and said barrel member for preventing said barrel member from entering the disc space.

21. The spinal distractor of claim 18 in which said disc penetrating portion includes a bullet-shaped front end to facilitate insertion in the disc space.

22. The spinal distractor of claim 18 in which said uneven diameter of said disc penetrating portion is lesser at its proximal end and greater in a direction toward its distal insertion end.

23. The spinal distractor of claim 22 in which said disc penetrating portion includes a bullet-shaped front end at said distal insertion end to facilitate insertion into the disc space.

24. The spinal distractor of claim 18 in which said uneven diameter of said disc penetrating portion is greater at its proximal end and lesser in the direction towards its distal insertion end.

25. The spinal distractor of claim 24 in which said disc penetrating portion includes a bullet-shaped front end at said distal insertion end to facilitate insertion in the disc space.

26. The spinal distractor of claim 19 in which said barrel member is removably attached to said disc penetrating portion.

27. The spinal distractor of claim 26 in which said disc penetrating portion includes a head portion for engaging said adjacent vertebrae and limiting the depth of insertion of said disc penetrating portion.

28. Apparatus for use in performing surgery for fusing vertebrae comprising a pair of hollow tubular extended outer sleeves and having at least one extended portion for insertion in the disc space between two adjacent vertebrae.

29. The apparatus of claim 28 in which said hollow tubular member includes at least a second extended portion.

30. The apparatus of claim 28 in which said hollow tubular extended outer sleeves are couple to a depth limiting foot plate.

31. The apparatus of claim 28 including engagement means at one end for engaging adjacent vertebrae.

32. The apparatus of claim 28 in which said engagement means comprises prongs.

33. The apparatus of claim 31 in which said engagement means are located on a foot plate attached to said hollow tubular extended outer sleeves.

34. Apparatus for use in performing surgery for fusing vertebrae comprising a pair of hollow tubular members joined together partially overlapping along their longitudinal axis.

35. The apparatus of claim 34 in which said pair of hollow tubular members have at least one extended portion for insertion in the disc space between two adjacent vertebrae.

36. The apparatus of claim 34 in which said hollow tubular members include a second extended portion.

37. The apparatus of claim 34 in which said hollow tubular members are rigidly fixed by a foot plate.

38. The apparatus of claim 34 including engagement means at one end for engaging adjacent vertebrae.

39. The apparatus of claim 38 in which said engagement means comprises prongs.

40. The apparatus of claim 38 in which said engagement means are located on a foot plate attached to said hollow tubular members.

41. A method for inserting a spinal implant between two adjacent vertebrae comprising inserting a hollow tubular extended outer sleeve having means for engaging the spine; removing at least a portion of a spinal disc located between two adjacent vertebrae; inserting an implant in the vertebrae through said tubular extended outer sleeve; and then removing said tubular extended outer sleeve.

42. The method of claims 42 in which said means for engaging the spine includes at least one extended portion for insertion in the disc space between two adjacent vertebrae.

43. The method of claim 42 including the steps of passing a boring means through said hollow tubular extended outer sleeve to bore a hole across the disc space and into a portion of the two adjacent vertebrae; removing the boring means.

44. The method of claim 43 in which said boring means is a drill.

45. The method of claims 43 in which said boring means is trephine.

46. The method of claim 41 in which said step for inserting an implant comprises inserting one or more at least partially cylindrical implants.

47. The method of claim 43 further including the step of inserting

a removable hollow inner sleeve into said hollow tubular extended outer sleeve prior to passing said drill through said hollow tubular extended outer sleeve.

48. The method of claim 47 in which the inside diameter of the hollow inner sleeve is equal to the root diameter of a threaded implant.

49. The method of claim 47 in which the inside diameter of the hollow inner sleeve is slightly greater than the root diameter of a threaded implant.

50. The method claim 41 in which an endoscope is used during at least a portion of said method.

51. The method claim 41 in which a radiographic imaging device is used during at least a portion of said method.

52. A method for inserting a spinal implant between two adjacent vertebrae, comprising the steps of:

inserting a spinal distractor in the disc space between two vertebrae to provide for proper spacing of the disc space between the vertebrae, said spinal distractor comprising a barrel member terminating in a disc penetrating portion having an uneven diameter;

inserting over the spinal distractor a hollow tubular member having at least a first extended portion for maintaining distraction of the adjacent vertebrae, said extended portion having an uneven height;

removing the spinal distractor from the hollow tubular member;

passing a boring means through the hollow tubular member to bore a hole in the disc and a portion of the two adjacent vertebrae;

removing the boring means;

inserting an implant in the vertebrae through the hollow tubular member; and

removing said hollow tubular member.

53. The method of claims 52 in which said boring means is a drill.

54. The method of claim 52 in which said boring means is a trephine.

55. The method of claim 52 in which said implant is at least partially cylindrical.

56. The method of claim 52 in which said uneven diameter of said disc penetrating is lesser proximate said barrel member and greater in the direction away from said barrel member.

57. The method of claim 56 in which said uneven height of said extended portion increases in a direction away from said hollow tubular member.

58. The method of claim 57 in which said disc penetrating portion includes a bullet-shaped front end to facilitate insertion of said disc penetrating portion in the disc space.

59. The method of claim 52 in which said uneven diameter of said disc penetrating portion of said spinal distractor is greater proximate said barrel member and lesser in the direction away from said barrel member.

60. The method of claim 59 in which said uneven height of said extended portions of said hollow tubular member increases in a direction away from said hollow tubular member.

61. The method of claim 52 in which said disc penetrating portion includes a bullet-shaped front end to facilitate insertion of said

disc penetrating portion in the disc space.

62. A method for inserting a spinal implant between two adjacent vertebra comprising:

inserting a spinal distractor having a disc penetrating portion with an uneven diameter in the disc space between two adjacent vertebrae to restore and maintain the normal angular relationship of the adjacent vertebrae;

placing over said spinal distractor and engaging to the spine a hollow tubular member having an engagement means for engaging the spine and for maintaining distraction of the adjacent vertebrae;

passing a trephine through the hollow tubular member and over the spinal distractor to drill a hole across the disc space and into a portion of the two adjacent vertebrae;

removing the trephine;

removing the spinal distractor;

inserting an implant in the vertebrae through the hollow tubular member; and

removing said hollow tubular member.

63. The method of claim 62 in which said trephine has means associated therewith for limiting the depth of the drilling.

64. A method for inserting a spinal implant between two adjacent vertebrae, comprising the steps of:

inserting at least one spinal distractor in the disc space between two vertebrae to provide for proper spacing of the disc space between the vertebrae;

inserting over said spinal distractor a pair of hollow tubular extended outer sleeves, said hollow tubular extended outer sleeves having at least one extended portion for insertion in the disc space between two adjacent vertebrae for maintaining distraction of the adjacent vertebrae;

removing said spinal distractor from said pair of hollow tubular extended outer sleeves;

passing a drill through each of said pair of hollow tubular extended outer sleeves to drill holes across the disc space and into a portion of the two adjacent vertebrae;

removing the drill;

inserting at least one implant into the vertebrae through said pair of hollow tubular extended outer sleeves; and

removing said pair of hollow tubular extended outer sleeves.

65. The method of claim 64 in which said hollow tubular extended outer sleeves comprise a second extended portion.

66. The method of claim 65 in which said first and second extended portions are diametrically opposed to each other.

67. The method of claim 64 in which said extended portion has an uneven height.

68. The method of claim 64 in which each of said plurality of implants is cylindrical.

69. The method of claim 64 in which said spinal distractor has a disc penetrating portion with an uneven diameter.

70. The method of claim 69 in which said uneven diameter of said disc penetrating portion is lesser proximate said barrel member and greater in the direction away from said barrel member.

71. The method of claim 64 in which said disc penetrating portion includes a bullet-shaped front end to facilitate insertion in the disc space.

72. The method of claim 69 in which said uneven diameter of said disc penetrating portion is greater proximate said barrel member and lesser in the direction away from said barrel member.

73. The method of claim 72 in which said disc penetrating portion includes a bullet-shaped front end to facilitate insertion in the disc space.

74. The method of claim 67 in which said uneven height of said extended portion is lesser proximate said barrel member and greater in the direction away from said barrel member.

75. The method of claim 67 in which said uneven height of said extended portion is greater proximate said barrel member and lesser in the direction away from said barrel member.

76. The method of claim 64 in which said pair of hollow tubular extended outer sleeves are coupled to a depth limiting foot plate.

77. The method of claim 76 in which said foot plate includes engagement means at one end for engaging the adjacent vertebrae.

78. A method for inserting a spinal implant between two adjacent vertebrae comprising inserting a pair of hollow tubular extended outer sleeves, said hollow tubular extended outer sleeves having at least one extended portion for insertion in the disc space between two adjacent vertebrae for maintaining distraction of the two adjacent vertebrae; passing a drill through each of said pair of hollow tubular extended outer sleeves to drill holes across the disc space and into a portion of the two adjacent vertebrae; removing the drill; inserting a plurality of implants into the vertebrae; and removing said pair of tubular extended outer sleeves.

79. The method of claim 78 in which said implants are at least in part cylindrical.

80. The method of claim 80 further including the step of insertion a removable hollow inner sleeve into each of said pair of hollow

tubular extended outer sleeves.

81. The method of claim 80 in which the inside diameter of the hollow inner sleeve is the same diameter as the root diameter of each of the implants.

82. The method of claim 80 in which the inside diameter of the hollow inner sleeve is slightly greater than the roct diameter of each of the implants.

83. The method of claim 78 in which said drill has means associated therewith for limiting the depth of the drilling.

84. The method of claim 78 in which said depth limiting means is lockably adjustable.

85. The method of claim 78 in which said implant is made of bone.

86. The method of claim 78 in which said implant is made of a material that promotes bone ingrowth.

87. The method of claim 78 in which said implant comprises a fusion promoting material.

88. The method of claim 78 in which said hole drilled across the disc space and into a portion of the adjacent vertebrae is tapped with a thread.

89. The method of claim 88 in which said hole is drilled through a hollow inner sleeve and said hollow inner sleeve is removed prior to tapping said hole.

90. The method of claim 84 in which the inside diameter of the hollow inner sleeve is the same diameter as the root diameter of the implant.

91. The method of claim 84 in which the inside diameter of the hollow inner sleeve is slightly greater than the root diameter of the implant.

92. A method for inserting a spinal implant between two adjacent vertebrae comprising the steps of:

(1) inserting a first distractor in the disc space between the two adjacent vertebrae and inserting a second distractor beside said first distractor to provide for proper spacing of the disc space between the vertebrae;

(2) placing over said first and second distractors a hollow tubular member having means for engaging said two vertebrae;

(3) removing said first distractor;

passing a drill through said hollow tubular member to drill a hole in the disc and a portion of the two adjacent vertebrae;

(4) removing the drill;

(5) inserting an implant in the vertebrae through said hollow tubular member;

(6) removing said hollow tubular member;

(7) removing said second distractor; and

repeating steps (3) through (6).

93. A method for securing a hollow tubular sleeve to two adjacent vertebrae comprising:

inserting at least one spinal distractor into the disc space intermediate two adjacent vertebrae, said distractor having a depth limiting means;

placing an outer sleeve having at least one tubular member and having on one end engagement means for engaging two adjacent vertebrae over said distractor, said distractor serving as a centering post and as an alignment rod for said outer sleeve;

driving said outer sleeve towards the spine over said distractor to engage said engaging means to the spine; and

removing said distractor with a distractor pulling means

leaving said outer sleeve in place.

94. The method of claim 93 in which said outer sleeve includes penetration preventing means for preventing overpenetration of said engaging means.

95. The method of claim 94 in which said penetration preventing means is lockably adjustable.

96. A method for inserting a spinal implant between two adjacent vertebrae, comprising the steps of:

inserting a spinal distractor in the disc space between two vertebrae to provide for proper spacing of the disc space between the vertebrae, said spinal distractor comprising a barrel member terminating in a disc penetrating portion;

inserting over the spinal distractor a hollow tubular member having at least a first extended portion for maintaining distraction of the adjacent vertebrae, said extended portion having an uneven height;

removing the spinal distractor from the hollow tubular member;

passing a boring means through the hollow tubular member to bore a hole in the disc and a portion of the two adjacent vertebrae;

removing the boring means;

inserting an implant in the vertebrae through the hollow tubular member; and

removing said hollow tubular member.

97. The method of claims 96 in which said boring means is a drill.

98. The method of claim 96 in which said boring means is a trephine.

99. The method of claim 96 in which said implant is at least

partially cylindrical.

100. The method of claim 96 in which said uneven height of said extended portion increases in a direction away from said hollow tubular member.

101. The method of claim 96 in which said disc penetrating portion includes a bullet-shaped front end to facilitate insertion of said disc penetrating portion in the disc space.

102. The method of claim 96 in which said uneven height of said extended portions of said hollow tubular member increases in a direction away from said hollow tubular member.

103. A method for inserting a plurality of partially cylindrical spinal fusion implants made of a material appropriate for human implantation, each of said plurality of implants comprising a cylinder having a longitudinal central axis and at least one flat side parallel to said central axis, said implant having a maximum diameter larger than the disc space between two adjacent vertebrae, comprising the steps of:

drilling two partially overlapping cylindrical holes across the disc space between the two adjacent vertebrae;

inserting a first of said partially cylindrical spinal fusion implants having a first flat side into one of said overlapping cylindrical holes, said first flat side being oriented perpendicular to the plane of said disc space;

inserting a second of said partially cylindrical implants having a second flat side into a second of said overlapping holes, said second flat side being adjacent and facing said first flat side of said first implant.

104. A method for inserting a plurality of partially cylindrical spinal fusion implants made of a material appropriate for human implantation, each of said plurality of implants comprising a

cylinder having a longitudinal central axis and at least one flat side parallel to said central axis, said implant having a diameter larger than the disc space between two adjacent vertebrae, said disc space being in a plane perpendicular to the longitudinal vertical axis of the spinal column, comprising the steps of:

drilling two partially overlapping cylindrical holes across the disc space between the two adjacent vertebrae;

inserting a first of said partially cylindrical spinal fusion implants having a first flat side into one of said overlapping cylindrical holes, said first flat side being oriented perpendicular to the plane of said disc space;

inserting a second of said partially cylindrical implants having a second flat side into a second of said overlapping holes, said second flat side being adjacent and facing said first flat side of the first implant.